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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,695	11/09/2001	Hideo Yamamoto	Q67179	5833

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EXAMINER	
SWERDLOW, DANIEL	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/986,695	YAMAMOTO ET AL.	
	Examiner	Art Unit	
	Daniel Swerdlow	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,5 and 17-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,2,4 and 5* is/are allowed.

6)☒ Claim(s) *17-31* is/are rejected.

7)☒ Claim(s) *21,22 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3 April 2006 has been entered.

Claim Objections

2. Claim 25 is objected to because of the following informalities: Due to an apparent typographical error, the claim ends wit the recitation "attenuating the input signal to the other speaker increases the volume of the other speaker". It is clear from the specification that this is intended as -- attenuating the input signal to the other speaker decreases the volume of the other speaker--. Appropriate correction is required.

3. Claims 21 and 22, as presented, are identical. One or the other should be amended or cancelled.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17 through 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Cherry (US Patent 3,702,910).

6. Regarding Claim 17, Cherry discloses a volume, balance and fader control circuit (Fig. 3) that corresponds to the volume controller claimed and comprises: a fader control (62) that corresponds to the input circuit claimed and is adjusted by a listener (i.e., receives a user input) to produce control voltages (i.e., generate an adjustment command) for front and rear amplifiers (column 4, line 60 through column 5, line 4); and a resistor, transistor and controllable amplifier arrangement (80, 48, 40, 84, 50, 42) that corresponds to the control circuit claimed and balances the audio condition between forward and back speakers (i.e., moves a balancing point of at least a first speaker and a second speaker by adjusting relative volume) (column 4, lines 60-64), while maintaining a desired total volume level during the operation (column 5, lines 27-30).

7. Regarding Claim 18, Cherry further discloses a front speaker (50) that corresponds to the first speaker claimed, a rear speaker (24) that corresponds to the second speaker claimed and a fader control (62) that corresponds to the input circuit claimed.

8. Regarding Claims 19 and 20, Cherry further discloses dividing a fixed amount of DC control voltage between front and rear channels (column 5, lines 2-4). As such, Cherry discloses adjusting relative volume by increasing the volume of the front (i.e., first) speaker while decreasing the volume of the rear (i.e., second) speaker when the fader control (62) is moved in an upward direction as depicted in Fig. 3.

9. Regarding Claims 21 through 23, Cherry further discloses dividing a fixed amount of DC control voltage between front and rear channels (column 5, lines 2-4). As such, Cherry discloses adjusting relative volume by decreasing the volume of the front (i.e., first) speaker while

increasing the volume of the rear (i.e., second) speaker when the fader control (62) is moved in a downward direction as depicted in Fig. 3.

10. Regarding Claim 24, Cherry further discloses balancing the speakers (i.e., adjusting relative volume) at the operator (i.e., predetermined) position with respect to the speakers at the front and rear of the operator (i.e., based on a relationship between the predetermined position and the speaker locations) (column 3, line 53 through column 4, line 2).

11. Regarding Claim 25, Cherry further discloses dividing a fixed amount of DC control voltage between front and rear channels (column 5, lines 2-4). As such, Cherry discloses adjusting relative volume by increasing the gain of the input signal to one speaker while decreasing the gain (i.e., increasing the attenuation) of the input signal to the other speaker when the fader control (62) is moved (column 4, lines 27-32). Gain and attenuation are mathematically equivalent. Whether a signal scaling is one or the other depends only on an arbitrary selection of a basis level.

12. Regarding Claim 26, Cherry discloses a volume, balance and fader control circuit (Fig. 3) that corresponds to the volume controller claimed and comprises: a fader control (62) that corresponds to the input circuit claimed and is adjusted by a listener (i.e., receives a user input) to produce control voltages (i.e., generate an adjustment command) for front and rear amplifiers (column 4, line 60 through column 5, line 4); and a resistor, transistor and controllable amplifier arrangement (80, 48, 40, 84, 50, 42) that corresponds to the control circuit claimed and balances the audio condition between forward and back speakers (i.e., moves a balancing point of a plurality of speakers by adjusting relative volume) (column 4, lines 60-64), while maintaining a desired total volume level during the operation (column 5, lines 27-30).

13. Regarding Claim 27, Cherry further discloses a user locating himself in the center of the sound field (column 2, lines 48-54) while driving (column 1, lines 2-30). As such, Cherry discloses the predetermined position in a center of a front seat of the vehicle.

14. Regarding Claim 28, Cherry further discloses balancing the speakers (i.e., adjusting relative volume) at the operator (i.e., predetermined) position with respect to the speakers at the front and rear of the operator (i.e., based on a relationship between the predetermined position and the speaker locations) (column 3, line 53 through column 4, line 2).

15. Regarding Claim 29, Cherry further discloses a fader control (62) that corresponds to the input circuit claimed.

16. Regarding Claim 30, Cherry discloses a front set of speakers (22, 26) and a rear set of speakers (20, 24).

17. Regarding Claim 31, Cherry further discloses a volume, the fader control (62) that balances the audio condition between forward and back speakers (i.e., moves a balancing point of at least a first speaker and a second speaker by adjusting relative volume) (column 4, lines 60-64).

Allowable Subject Matter

18. Claims 1, 2, 4 and 5 are allowed.

19. Regarding Claim 1, as shown above, Cherry discloses a fader control that maintains a volume level at a point in a vehicle by complementary control of gain/attenuation in the signal pats of front and rear speakers. However, Cherry does not disclose or fairly suggest computing volumes based on previously measured and recorded attenuations. Rather, Cherry relies on the relative symmetry of the vehicle interior and direct control of speaker output to maintain a

desired balance point. US Patent 5,983,087 to Milne et al. discloses customization of vehicle audio systems based on stored parameters (column 4, lines 34-41). However, Milne discloses only an empirical process of trying different audio system parameters in different vehicle types to establish advantageous correspondences. As such, Milne does not disclose recording attenuations between speakers and particular positions as claimed. Since the prior art fails to disclose or suggest all elements of the claim, Claim 1 is allowable.

20. Claims 2, 4 and 5 are allowable due to dependence from Claim 1.

Response to Arguments

21. Applicant's arguments filed 3 April 2006 with respect to Claims 17 through 31 have been fully considered but they are not persuasive.

22. In the first paragraph on page 9 of the response filed on 3 April 2006, applicant alleges that newly added independent claims 17 and 26 are patentable due to features analogous to features discussed in conjunction with Claim 1, namely "when a balancing point is moved from a prescribed position, a total volume at the prescribed position is unchanged". However, Claim 17 only requires that volume at a predetermined position be maintained when the balance point is moved *relative to* the predetermined position. This is in contrast to Claim 1, which requires that the initial balancing point is the position at which the volume must be maintained. Similarly, Claim 26 requires only that the volume at the predetermined position remains unchanged when the balancing point moves, but requires no relationship between the predetermined position and the balancing point. As such, the argument by analogy with Claim 1 is unpersuasive. As shown in the rejections above, the cited art meets the features of the claims as presented.

Conclusion

Examination of this application has been transferred to the undersigned. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 571-272-7531. The examiner can normally be reached on Monday through Friday between 7:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh H. Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Swerdlow
Primary Examiner
Art Unit 2615

ds
10 May 2006